IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of

HARRIS et al. Atty. Ref.: 540-560; Confirmation No. 2005

Appl. No. 10/529,227 TC/A.U. 1797

Filed: March 25, 2005 Examiner: N. Turk

For: CORROSION SENSING MICROSENSORS

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November 13, 2009

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

REQUEST FOR RECONSIDERATION

This Request for Reconsideration is responsive to the Decision of the Board of Patent Appeals and Interferences in the above-identified application and appeal decided September 14, 2009 (the "Decision"). Appellants respectfully request that the Board reconsider its Decision based upon the following suggested errors in the opinion.

1. Fact Finding No. 5

In the Decision, "Findings of Fact" No. 5 makes the factual finding that "Kim depicts the lines 41 as straight and states that the lines are formed identically so that each electric current route has the same resistance . . . ." The Board also makes the admission that "Kim is otherwise silent with respect to the path the lines take." Accordingly, the Board's fact findings do not evidence that Kim contains any teaching or suggestion of anything other than identical straight lines.

Administrative Patent Judge (APJ) Timm during the oral hearing queried as to whether there was anything in the Kim reference that required the lines to be straight (transcript, page 9, lines 5 and 6). This begs the question as the only evidence of record is what Kim teaches, not what it doesn't require. The issue is not whether there is anything in the Kim reference that precludes the lines being other than straight, but rather, only what the Kim reference discloses. Quite clearly, as the Board admits in the Decision, "Kim depicts the lines 41 as straight." As will be discussed, the Board abuses the law in speculating that Kim is compatible with curved lines just because it does not preclude curved lines.

2. Fact Finding No. 8

The Board's Finding of Fact No. 8 addresses Appellants' claim language "a plurality of corrosion tracks, each of the tracks electrically connecting said at least two common terminals." The Board's numerous errors in its Fact Finding #8 are addressed as follows.

Firstly, track 86 is not a corrosive track since it is covered by layer 98 (see Ansuini, column 5, lines 59-61 with respect to the preferred embodiment) as shown in the dotted line 98 in Figure 2. This issue was addressed in detail in Appellants' Appeal Brief argument C. The Examiner's ignoring of this Appeal Brief argument was also addressed in the Reply Brief argument C on page 4. Furthermore, this issue was confirmed during the oral hearing as shown by the PTO transcript (page 4, lines 1-6).

As a matter of fact, based upon the evidence of record before the Board, Ansuini only teaches single corrosive tracks, either 66 or 86, and, as discussed in Ansuini, track 86 is covered by layer 98 and so therefore it cannot be a "corrosive track." The Board's use of the plural term "corrosive tracks 66 and 86" in the Fact Finding is incorrect and is disputed.

Also in Fact Finding 8, the Board incorrectly alleges that "Appellants do not dispute" that Ansuini teaches corrosive tracks 66 and 86. Again, in a context of Appellants' claim to a "plurality of corrosive tracks, each of the tracks electrically connecting said at least two common terminals," Appellants actually did dispute that the Ansuini reference described "corrosive tracks 66 and 86."

Firstly, because of the teaching in Ansuini that track 86 is covered by layer 98, it is doubtful that this is a "corrosive track" in that it is not exposed to any corrosive atmosphere or any corrosive fluid. If 86 is not a corrosive track, then there is only one corrosive track, not a plurality as contended by the Examiner and the Board.

Secondly, even if track 86 is a corrosive track in another embodiment, Appellants' Appeal Brief section C specified that Ansuini teaches only a single track between each pair of terminals, i.e., the "two common terminals." Thus, even if Ansuini taught two corrosive tracks, i.e., 66 and 86, they do not meet the claim requirement that "**each** of the tracks electrically connecting said at least two common terminals" (emphasis added). The plain meaning of the claim language "common terminals" would mean that plurality of tracks are connected to those two terminals (while the claim permits more than two terminals (see the language "at least two"), the terminals must be "common" terminals amongst a plurality of corrosive tracks). This claimed arrangement clearly is missing from the Ansuini reference.

Thirdly, the Board's statement that "Appellants do not dispute" is in error. The Examiner's conclusion was not only disputed in the Appeal Brief at section C, it was disputed in the Reply Brief at section C (covering pages 4 and 5 of the Reply Brief) and it was specifically disputed in the oral hearing (See the PTO Hearing transcript, page 4, lines 1-6). Neither the Appellant's dispute (and traversal of the Examiner's contention) in the Briefs nor the dispute in

the Oral Hearing was questioned by APJ Timm or any other member of the Panel. Therefore, it is incredible for the Board to make the statement that "Appellants do not dispute" that Ansuini describes corrosive tracks 66 and 86 as in the context of the language of Appellants' claims.

Fourthly, Fact Finding #8 goes on to correctly state that "[t]he tracks are connected to individual terminals (terminals 62 and 70 for track 66 and terminals 82 and 90 for track 86)." However, the Board apparently ignores the fact that this specific teaching is in the context of only one track being connected to one pair of terminals and the other track being connected to another, different pair of terminals. Neither the Board, nor the Examiner has ever indicated how or why this has any bearing on Appellants' claimed invention which requires "at least two common terminals." Where or how any "common terminals" are disclosed in or even relevant to the Ansuini reference? The answer to that question, of course, is they are not and there is no disclosure of any "common terminals" in the Ansuini reference.

The Board states that the Ansuini tracks "are connected to individual terminals," but ignores the claim requirement that the plurality of tracks be connected to "said at least two common terminals." In fact, the statement in the Decision adds strength to Appellants' argument that Ansuini, in teaching that the tracks are connected to "individual terminals" that are separate, supports the argument that this **teaches away** from the claim requirement of the tracks being connected to "said at least two common terminals." Ansuini simply would not operate if its tracks 66 & 86 were connected to a common pair of terminals.

3. Neither the Examiner nor the Board identify any evidence that rebuts the evidence identified by Appellants that the Ansuini (and Kim) references teach away from the claimed invention

The "teaching away" evidence in both Kim and Ansuini is discussed in detail in Appellants' Appeal Brief sections B and D. The Examiner's only response to both is that there is no disclosure in the Kim and Ansuini references that "precludes" an alternative form of the recited tracks. Appellants have pointed out in the Reply Brief discussion of Appeal Brief arguments B and D that there is no Federal Circuit case law requiring Appellants to show that a prior art reference "precludes" the claimed invention for that reference to be prior art which teaches away from a combination. In the Board's own Decision, there is no indication of any judicial holding that says that prior art must "preclude" the claimed combination in order to legally "teach away" from such use. Instead, the Decision quotes Federal Circuit case law which confirms that "a reference . . . must lead that person in a direction divergent from the path that was taken by the applicant." *McGinley* at 1354. Additionally, the Board has cited no reversal or other case law (Federal Circuit or Supreme Court) which reverses the Court of Appeals for the Federal Circuit holding in *In re Fine* referenced in the Appeal Brief, i.e., it is "error to find obviousness where references 'diverge from and teach away from the invention at hand'."

The **only** teaching in the Kim reference is the use of a plurality of straight lines between the two common terminals showing that a straight line is the shortest distance between two points. The **only** teaching in the Ansuini reference is the teaching of a single serpentine line between one pair of terminals. Appellants' Appeal Brief, Reply Brief and oral argument clearly pointed out how and why one of ordinary skill in the art would be led away from supplying a plurality of serpentine tracks between two common terminals. First the Examiner, and now the

Board's Decision, has simply ignored this factual argument and the judicial precedent upon which it is based.

The Board's conclusion that Fact Findings #2-#5 support its conclusion that Kim "does not limit the configuration of the tracks" is simply not supported by the cited fact findings (see the Decision on page 8, 2nd ¶). Fact Finding #2 merely discloses Figure 1 of the Kim reference which shows a plurality of straight lines connecting the two common terminals. Fact Finding #3 is a reference to Figure 1 including a plurality of thin lines 41 which are only described as being straight lines. Fact Finding #4 merely states the Examiner's finding and Appellants' agreement that thin lines 41 are a plurality of corrosive tracks. Fact Finding #5 merely states that "Kim depicts the lines 41 as straight" and makes the observation that Kim is "otherwise silent with respect to the path the lines take."

The absence of any teaching of a configuration other than a straight line is not in fact a teaching of serpentine lines. Straight lines are the only operable embodiment taught in Kim. The Board's observation of the absence of a teaching does not evidence that Kim teaches serpentine paths. The only thing Kim teaches is as described in Fact Finding #5 – a teaching of lines 41 as being straight lines each directly connected to two common terminals. Thus, there is nothing to support the Board's conclusion on page 8 of the Decision that Kim "does not limit the configuration of the tracks (FF 2-5)." Kim teaches only what it teaches, i.e., a plurality of straight and not serpentine lines. The Board is attempting to support an otherwise unsupported conclusion by a double negative. However, the only evidence of record is that the Kim reference teaches the use of a plurality of straight lines to directly connect two common terminals – this is the only teaching and suggestion in Kim.

Additionally, the Board's conclusion with respect to Ansuini not teaching away from the claimed invention is similarly defective. The Board's statement is that Ansuini teaches that "serpentine pathways are operable in electrical resistance sensors (FF 7-9)" implying that this conclusion is somewhere supported in the identified Fact Findings. Again, operability in an electrical resistance sensor is not what is claimed in Appellants' claims. The question is, does Ansuini contain any teaching or suggestion of the claimed plurality of corrosive tracks connecting at least two common terminals which follow a serpentine path?

Ansuini, as noted above and as noted in multiple instances of the record before the Board, teaches only a single serpentine path between any pair of "common terminals." Fact Finding #7 is a reproduction of Figure 2 of Ansuini showing that there is only one serpentine path 66 between terminals 62 and 70 and only one serpentine path 86 between terminals 82 and 90. From this drawing, it can only be concluded that Ansuini teaches only a single serpentine path between any pair of common terminals.

Further, if there were any possibility of Ansuini teaching more than one serpentine path, Ansuini's Figure 2 could very easily have been modified to interconnect the serpentine path 86 with the terminals 62 and 70 thereby obviating the need for terminals 82 and 90 and simplifying the Figure. Unfortunately, this would not work (it would result in a short between the two plates when operated in the first embodiment of Figure 1 – discussed in column 4, lines 20-50). Ansuini in all of its embodiments clearly require the single tracks to be connected to separate pairs of terminals and not two common terminals. Thus, as has previously been made of record, Ansuini, in order to operate, **precludes** the claimed combination of elements i.e., a plurality of serpentine paths connected to a pair of common terminals. Even though prior art precluding the claimed invention is not believed to be the test of whether a reference "teaches away," the

Examiner, and now the Board, has simply ignored the inoperability of Ansuini if modified in the manner of Appellant's claim.

Fact Finding #8 has already been shown to be incorrect for numerous reasons, as noted above. Fact Finding #9 is basically correct, but does not aid the Examiner's or the Board's case in supporting its conclusion, at least with respect to the conclusion being pertinent to the claimed invention. The Board's conclusion that "one reference is silent as to what another reference teaches" not "teaching away" is not disputed. The Board correctly notes that the *KSR* case indicates "when the prior art teaches away from a combination, that combination is more likely to be nonobvious" (Decision, page 4). However, Appellants have previously pointed out that the Kim reference suggests the use of straight lines between common terminals (and teaches nothing else) and the Ansuini reference teaches the use of only a single serpentine line between each pair of terminals (and any electrical engineer reviewing the above cited portion of the Ansuini reference will conclude that it would be inoperative in either embodiment if the two serpentine paths 66 & 86 were connected to a single pair of terminals). Thus Kim discourages anything other than straight lines and Ansuini is inoperative if more than one track is connected to a single pair of terminals, i.e., this is the definition of "common terminals."

Each of the references would discourage one of ordinary skill in the art and would lead that person in a direction divergent from the path taken by the applicant, i.e., a plurality of corrosive tracks, each of the tracks "connecting said at least two common terminals" wherein the tracks have a serpentine shape.

The fact that the Board's Decision now agrees that a reference must necessarily be considered to "teach away from a use that would render the result inoperable" is also of significance (Decision page 5, lines 3-5). As noted above, if the serpentine track 86 were in fact

connected to terminals 62 and 70 so that this forms a second serpentine path between the common pair of terminals 62 and 70 (and thereby meeting the claim terminology of a plurality of tracks being connected to a "common terminal"), the Ansuini device would simply not operate in either of its designed embodiments.

The Board is invited to look at any possibility of operation of the Ansuini device with the plurality of serpentine paths connected to a common pair of terminals in order to meet Appellants' claims. The answer is Ansuini clearly would not work and thus would be inoperable. This inoperability of Ansuini (if modified in the manner of the presently claimed invention) also meets the test of "teaching away" which rebuts any *prima facie* case of obviousness.

The Board's analysis and Findings of Fact with respect to supporting the Decision is simply defective for all of the reasons noted above.

4. The Board misapprehends the purported "space saving" teaching of Ansuini

While the Ansuini reference does recite that its serpentine path provides "space saving" the Board adopts this without question as a motivation to modify the Kim reference to include serpentine paths. However, it is noted that the serpentine paths of Ansuini are very wide, i.e., the distance between the 180 degree turns is on the order of 14 times longer than the distance between the straight line portions for a width to length ratio of about 14 to 1. While this "saves space" in the Ansuini embodiment, it would not save space if applied to the embodiment of the Kim patent. If each of the single lines in the Kim patent was changed to a serpentine path in the manner of Ansuini, the Kim device and its "common terminals" would be at least 14 times longer than it is currently shown. In fact, no space is saved by combining the two. It is only in

the Ansuini embodiment that, in order to obtain a longer resistance path or "choke point," the single serpentine path serves to "save space."

The Examiner cannot simply and blindly accept the suggestion that Ansuini teaches "space saving" and then apply that to all possible applications of a serpentine path and assume that the serpentine path always provides a space savings motivation to combine in the manner of the claimed invention. In order to permit the Board (and reviewing courts) to properly evaluate the Examiner's rationale for combining (as required by the Supreme Court in *KSR*) he must provide some "analysis." The board must then evaluate the Examiner's analysis to see if it inherently always provides the purported space saving benefit. As noted above, the serpentine path does not always provide a "space saving" benefit and the Board's adoption of this purported benefit without review is clearly erroneous.

For all of the reasons noted above, Appellants respectfully traverse the Board's Fact Findings #5 and #8 and the Board's "Analysis" based upon a misapplication of Fact Findings #1-#9 as noted above. Reconsideration of the Board's Decision is respectfully requested.

Respectfully submitted,

NIXON & VANDERHYE P.C.

By: _____
Stanley C. Spooner
Reg. No. 27,393

SCS:kmm
901 North Glebe Road, 11th Floor
Arlington, VA 22203-1808
Telephone: (703) 816-4000
Facsimile: (703) 816-4100